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## DESAFIOS ÉTICOS DA INTELIGÊNCIA ARTIFICIAL À LUZ DOS DIREITOS HUMANOS

ETHICAL CHALLENGES OF ARTIFICIAL INTELLIGENCE IN THE  
LIGHT OF HUMAN RIGHTS

DESAFÍOS ÉTICOS DE LA INTELIGENCIA ARTIFICIAL A LA LUZ DE  
LOS DERECHOS HUMANOS

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### RESUMO

Em um cenário de mundo cada dia mais automatizado e digital, a inteligência artificial (IA) apresenta um potencial de revolucionário diversos setores da sociedade. Contudo, seu desenvolvimento e a utilização suscitam questões éticas, especialmente relacionadas à privacidade, autonomia e discriminação. Esta pesquisa busca analisar os desafios éticos da IA considerando a conjuntura regulatória brasileira e internacional. A pesquisa utiliza metodologia de pesquisa descritiva, com base em revisão bibliográfica de literatura científica e documental sobre IA e sua regulamentação. Examina-se os pilares para um uso ético da IA destacando a transparência, explicabilidade, justiça e responsabilidade como fundamentais para um sistema regulatório alinhado aos direitos humanos. A pesquisa visa contribuir, ainda que brevemente, com o debate sobre ética na IA.

### PALAVRAS-CHAVE

Inteligência Artificial, Ética, Direitos Humanos, Desafios, Perspectivas.

## ABSTRACT

In an increasingly automated and digital world, artificial intelligence (AI) has the potential to revolutionize various sectors of society. However, its development and use raise ethical questions, especially related to privacy, autonomy and discrimination. This research seeks to analyze the ethical challenges of AI considering the Brazilian and international regulatory environment. The research uses descriptive research methodology, based on a bibliographical review of scientific and documentary literature on AI and its regulation. It examines the pillars for an ethical use of AI, highlighting transparency, explainability, fairness and responsibility as fundamental to a regulatory system aligned with human rights. The research aims to contribute, albeit briefly, to the debate on ethics in AI.

## KEYWORDS

Artificial Intelligence; Ethics; Human Rights; challenges; perspectives.

## RESUMEN

En un mundo cada vez más automatizado y digital, la inteligencia artificial (IA) tiene el potencial de revolucionar diversos sectores de la sociedad. Sin embargo, su desarrollo y utilización plantean cuestiones éticas, especialmente relacionadas con la privacidad, la autonomía y la discriminación. Esta investigación pretende analizar los desafíos éticos de la IA teniendo en cuenta el entorno normativo brasileño e internacional. La investigación utiliza una metodología de investigación descriptiva, basada en una revisión bibliográfica de la literatura científica y documental sobre la IA y su regulación. Examina los pilares para el uso ético de la IA, destacando la transparencia, la explicabilidad, la equidad y la responsabilidad como fundamentales para un sistema regulatorio alineado con los derechos humanos. La investigación pretende contribuir, aunque sea brevemente, al debate sobre la ética en la IA.

## PALABRAS CLAVE

Inteligencia Artificial, Ética, Derechos Humanos, Retos, Perspectivas.

## 1 INTRODUCTION

Artificial intelligence (AI) is a disruptive power on the current global scenario, with applications in various sectors such as health, education, security and the economy. It undeniably has the potential to revolutionize the way people communicate and interact, as well as providing practicality, celerity and excellence in the provision of services. However, the development and use of AI raises ethical issues that require closer scrutiny.

Ethical concerns stem mainly from artificial intelligence's capacity to collect and analyze data, which can have an impact on privacy, individual autonomy and non-discrimination. Similarly, the ethics of developing autonomous lethal weapons systems, for example, are questioned.

The Global Risks Report, a report prepared by the World Economic Forum and published in 2024, points out that ethical issues directly related to the development and use of AI, such as the spread of false information, misinformation and unfavorable consequences of artificial intelligence technologies, are among the most urgent global risks to be faced over the next ten years (Wef, 2024).

Another cause for concern is the use of artificial intelligence in public security, in which there is a predicted increase in cases of discrimination, especially against black people. In many countries, apart from Brazil, there is also a concern about the application of AI to jeopardize the fairness of electoral processes. Examples include cases investigated by the Brazilian Federal Police about the manipulation of politicians' voices in the states of Manaus, Sergipe and Rio Grande do Sul (O Povo, 2024).

In March 2024, the European Parliament and the Council of the European Union validated the Artificial Intelligence Regulation, therefore being the world's first standard for establishing a global guideline on AI. In synthesis, the text reinforces that the European Union's Artificial Intelligence Law is aligned with the objectives of promoting the European approach to human-centered AI, of being at the forefront of the development of "safe, ethical and trustworthy" AI, with the safeguarding of ethical principles, in line with what has been previously observed (European Parliament, 2024).

In this circumstance, based on the paradigm of developing and applying artificial intelligence in an ethical and responsible manner, it is important to analyze by a more detailed point of view the ethical challenges of artificial intelligence regarding the protection of human rights. In this regard, the investigation question is: how can artificial intelligence be developed and used in an ethical and responsible manner, given the challenges and prospects for its regulation?

The brief research presented here will analyze the ethical limits of AI in the context of the regulatory future, considering the Brazilian and international context. To this purpose, the main challenges and prospects for the development and use of technology in terms of ethics will be examined. The research methodology is exploratory, based on a bibliographical and documentary review, with a descriptive nature, with the purpose of contributing to discussions about the development and regulation of AI from the perspective of human rights.

It should be noted that this article is relevant to human rights because it critically addresses the ethical implications of the use of artificial intelligence. The study demonstrates that the unethical use of new technologies, such as artificial intelligence, can lead to rights violations at national and international level.

## 2 OVERVIEWS OF ARTIFICIAL INTELLIGENCE: CONCEPTS AND PERSPECTIVES

Human intelligence has multifaceted capacities for reasoning, learning, memory, problem-solving, creativity, language, emotions and adaptation. It has emotional abilities such as self-awareness, intuition, motivation, empathy and self-regulation, as well as social skills, which enable interaction and relationships with other individuals. Gardner (2011) points out that a reductionist concept of human intelligence is not appropriate, as it is a complex composition of various skills. According to Marvin Minsky (1989) the mechanism within the human mind allow the creation of solutions to certain problems, and the process to achieve it is the human intelligence by itself.

Like other terms that permeate the digital context, the concept of Artificial Intelligence - AI - defies precise definitions. However, it is a multidisciplinary technology that seeks to enable computers to perform tasks that were previously exclusive to human behavior or skills, in a similar - or superior - way. Due to the volume of data, AI is capable of imitating or even surpassing the cognitive and problem-solving capacities of human beings (Hoffmann-Riem, 2019). The European Parliament (2023) describes AI as the ability to replicate human skills by modulating its behavior based on the observation of previous actions and results.

The machine has the capacity to learn as it receives a specific command for a given task. Similarly, an algorithm absorbs information just as an individual learns by reading data. Therefore, AI systems can be used to learn and perform tasks that have not yet been carried out, using examples and data, dispensing with manual programming for the necessary solution (Garcia, 2020).

In the short term, while reasoning is the application of logical rules to a set of available data, knowledge involves learning from available data and recognizing visual, sensory and behavioral patterns (Alves *et al.*, 2023). However, artificial intelligence is not literally artificial, because it is created and inspired by people and, above all, has an impact on them (Costa, 2022).

The potential for progress and innovation is an indelible mark of the development and use of artificial intelligence, which brings with it ethical and social concerns that demand caution. It is essential to discuss the problems related to AI, aiming the ethical use of technology.

The definition of ethics is the described as the science that delves into human behavior, based on norms that derive from itself or from precepts observed by the individual (Abbagnano, 2007), therefore, it involves moral norms and values. This justifies the confluence between ethics and AI, which is indispensable if it is to be used in harmony with social values. Ethics is the tool capable of assessing impacts on society and the agent that guarantees collective protection from the risks arising from new technologies (Valderramas, 2020).

Ethics in the artificial intelligence is understood as a set of principles and guidelines that lead - or should lead - to the development, implementation and use of technology, emphasizing perspectives of “responsibility, justice, security and transparency”. One of the main challenges is to ensure that algorithms are impartial and do not reproduce discrimination and prejudice. This objective can - or will - only be achieved through data selection and organization processes, with the consequent careful analysis of the data applied in training AI models and the insertion of parameters to deal with possible biases (Loyola *et al.*, 2023).

The moral and ethical dilemma takes shape when, from the input of various data into a machine programmed with a learning algorithm in different sectors and without any previously programmed ethical discernment, the machine is able to cross-check data, calculate statistical indices and provide an output that can be the border between approving or not approving a loan, criticizing or not criticizing a text, prescribing or not prescribing a medicine or, worse, shooting or not shooting a citizen (Di Blasi; Cantarino, 2017, ours translation).

The ethical development of AI is linked to the Sustainable Development Goals - SDGs, established by the United Nations - UN - as part of the 2030 Agenda. Goals and targets are set so that all countries adopt them according to their own priorities and act in the spirit of a global partnership, aiming to guide the choices needed to improve people’s lives, both now and in the future (Santos, 2022). Several of the SDGs, such as poverty eradication - SDG 1, quality health - SDG 3, quality education - SDG 4, gender equality - SDG 5, decent work and economic growth - SDG 8, reducing inequalities - SDG 10 - and peace, justice and strong institutions - SDG 16, are interlinked with the development and ethical use of AI.

Menezes (2023) has compiled recent studies that address actions by artificial intelligence that are considered unfair or dangerous, and all the issues the author brings together in his text relate to the ethical use of technology. The following table, drawn up by the author based on the information presented by Menezes, summarizes these actions, as well as the theoretical guidelines or author who carried out the research.

**Frame 1** – Issues regarding the use of artificial intelligence

Issues identification	Description or example	Theoretical guidelines
No precision in facial recognition systems	The accuracy of facial recognition systems depends on elements such as ethnicity, age and gender, raising questions about potential discrimination associated with these technologies.	GROTHER, Patrick J.; NGAN, Mei L.; HANAOKA, Kayee K. <b>Face recognition vendor test part 3: Demographic effects</b> . 2019.
Gender bias in automated curriculum screening systems	Algorithms responsible for screening CVs show gender bias, to the detriment of female candidates.	LEAVY, Susan. Gender bias in artificial intelligence: The need for diversity and gender theory in machine learning. In: <b>Proceedings of the 1st international workshop on gender equality in software engineering</b> . 2018.
Ethical obstacles related to autonomous vehicles	Ethical issues related to autonomous cars involved in accidents demonstrate the need to reflect on ethical solutions in the programming of such vehicles, imposing a necessary regulation.	AWAD, Edmond <i>et al.</i> The moral machine experiments. <b>Nature</b> , v. 563, n. 7729, p. 59-64, 2018.

Issues identification	Description or example	Theoretical guidelines
Prejudice in credit systems	Algorithms used by financial institutions to assess a user's profile when granting credit can be biased against ethnic minorities, resulting in lower approval rates and a higher percentage of interest charged.	KLEIN, Aaron. <b>Credit Denial in the Age of AI</b> . Brookings Institution, 2019.
Political persecution in surveillance systems	It showed that the Chinese government has been using AI-based surveillance systems to monitor dissidents and ethnic minorities, such as the Uyghurs.	MOZUR, Paul. One month, 500,000 face scans: How China is using AI to profile a minority. <b>The New York Times</b> , v. 14, p. 2019, 2019.
Harmful trends in criminal justice systems	AI systems applied to judicial processes, which analyze the risk of recidivism and sentencing, tend to be detrimental to ethnic and economic minorities.	ANGWIN, Julia <i>et al.</i> The promise and peril of predictive algorithms in criminal justice. <b>Harvard Business Review</b> , 2019.
Disrespect for privacy in voice recognition systems	Amazon uses Alexa to listen to and transcribe users' voice recordings without their knowledge or permission.	DAY, Matt; TURNER, Giles; DROZDIK, Natalia. Amazon workers are listening to what you tell Alexa. <b>Bloomberg.com</b> , v. 10, 2019.
Threats related to autonomous weapons systems	The authors warn of the dangers of autonomous weapons systems capable of making lethal decisions without human interference.	HOROWITZ, M. C.; SCHARRE, P. An Introduction to Autonomy in Weapon Systems. <b>Center for a New American Security</b> , 2015.

Source: self-elaborated based on Menezes (2023)

Impacts related to artificial intelligence are subdivided into desirable or undesirable according to ethical perspectives and by the economic and social policies' perspective. According to this classification, it is imperative to question the need for a legal approach capable of enabling individual and collective interests and anticipating adverse effects (Hoffmann-Riem, 2019). However, it is impossible to understand a regulation capable of achieving these objectives that is not aligned or committed to general ethical precepts and those already conjectured specifically in the context of the development and use of AI systems.

In Brazil, the main document related to AI regulation is the Final Report drawn up by the Commission of Jurists, which is responsible for establishing a replacement document on artificial intelligence in the country. The report carries out a detailed analysis of the issues surrounding the regulation of AI, providing suggestions and premises to ensure the ethical, cautious and conscious use of the technol-

ogy. It highlights, among the central points, ethical issues relating to use, legal and juridical aspects whose purpose is to protect fundamental rights, as well as fostering debates on safety, transparency and responsibility in the application of AI systems (Brasil, 2022; Arcieri; Jaborandy; Andrade, 2023).

In addition to the Final Report of the Commission of Jurists (Brasil, 2022), the country has the General Data Protection Law - LGPD (Brasil, 2018) and the Consumer Defense Code (Brasil, 1990) which, in the absence of specific AI regulations, establish ethical parameters for the application and use of technology at national level. Even so, the need to observe ethical paradigms for regulation is not forgotten, aiming to guarantee a considered and positive application of AI for society (Menezes, 2023).

The *Projeto de Governança de Inteligência Artificial - GovIA*, of the Federal Data Processing Service - SERPRO was created in 2023 with the purpose of establishing the governance structure for artificial intelligence in Brazil, in line with the LGPD and the provisions of the AI Regulatory Framework - PL n. 2338. The main pillars of the project are ethics, security, transparency and accountability. About ethical aspects, a Code of Ethics for AI is being drawn up, which will spell out the principles guiding the development and use of AI at SERPRO (Loyola *et al.*, 2023).

### 3 ETHICAL PRINCIPLES IN ARTIFICIAL INTELLIGENCE: GUIDELINES AND CHALLENGES FOR RESPONSIBLE DEVELOPMENT

In the section that follows, fundamental ethical principles will be addressed that should guide the development and implementation of AI, which can also be perceived as significant challenges. The study examines fairness, reliability, social impact, accountability, transparency, privacy and safety, which are considered pillars for ensuring that AI systems are developed and operated in an ethical and responsible manner. These principles provide an overview of the ethical setbacks associated with AI by guiding policies, regulations and practices for the development of the technology.

Fairness implies ensuring that AI algorithms and systems do not reproduce inequalities or amplify discriminatory biases already rooted in society, through measures that guarantee impartiality and equality, regardless of characteristics such as gender, race, ethnicity, sexual orientation or social class, at all stages of the technology's development and use (European Commission, 2019).

Reliability and security refer to the ability of AI systems to operate accurately, without considerable errors or failures, guaranteeing the integrity, confidentiality and availability of user data and the operations carried out. It is the high standards of reliability and security that enable AI systems to perform effectively and responsibly (Burle; Cortiz, 2020).

The social impact in the context of AI includes the social and human consequences, as well as the effects in various areas, such as employment, economic inequality and privacy. According to the principle of reliability, those responsible for developing and implementing AI must observe impacts and mitigate negative effects while prioritizing social well-being and human development (Burle; Cortiz, 2020).

Accountability gives responsibility to developers, operators and stakeholders for the consequences of decisions made by AI systems. It includes the possibility of auditing the data and design pro-

cesses of AI systems, as reporting and evaluation by external and internal auditors can increase trust in the technology (European Commission, 2019).

Transparency encompasses traceability, explainability and communication. Information on how the algorithms work, the data used and the decision-making processes need to be available, not necessarily publicly disclosed, to allow for independent review of these systems. Explainability refers to the ability to make the technical procedures of an AI system and the associated human decisions comprehensible (European Commission, 2019).

Privacy and security are fundamental to guaranteeing the confidentiality, integrity and accessibility of data, aspects that are frequently impacted by AI applications. In this sense, it is essential to establish data governance that considers the quality, integrity and relevance of the information used. Through these principles, the development of AI must be aligned with essential values such as privacy, dignity, freedom, autonomy and human rights (Burle; Cortiz, 2020).

After discussing the basic guiding principles for the development and implementation of artificial intelligence, it is important to emphasize that the Final Report of the Commission of Jurists offers specific guidelines on ethics and the ethical use of technology. This is a document of great importance for the discussion of the subject of this article, which included the participation of experts from various fields, contributing to the process of debate and deliberation.

In the chapter dedicated to written conclusions, experts and organizations collaborated with guidelines on the ethics or ethical use of AI. In general terms, attention to the limits, ethical principles and impacts of artificial intelligence must be understood at all stages of the development process, and not just at the final stage of its implementation (Brasil, 2022).

The Federation of Trade in Goods, Services and Tourism of the State of São Paulo – FECOMÉRCIO - has stated that respect for ethical principles must be incorporated into the constitutional protection of fundamental rights. Self-determination of information by individuals is essential and must be accompanied by adequate transparency, preserving corporate secrecy, which is important for the country's economic and technological progress. The FECOMÉRCIO suggests the creation of Ethics Committees to deal with complex issues related to the creation and use of algorithms in decision-making, implemented by companies and associations to promote principles, codes, auditing methods and certification of algorithms, guaranteeing the rights of users of these technologies (Brasil, 2022).

Cesar Beck presents two strategies for integrating ethical principles and criteria into AI decision-making systems. The first would be a bottom-up approach, in which AI systems would learn to make decisions based on observed human behavior, which could lead to a standardization of possible discriminatory biases. The second possibility would be the top-down approach, in which principles would be added to the system's architecture through more specific programming in concrete cases. EBA - Ethics-Based Auditing - suggests governance for organizations. This is an authoritative model that assesses risks and impacts based on relevant principles and standards to strengthen the ethical foundations of society, without replacing other governance and accountability tools (Brasil, 2022).

The recently approved EU Artificial Intelligence Regulation builds on the European Declaration on Digital Rights and Principles and the Ethical Guidelines for Trustworthy AI of the High-Level Expert Group on AI to ensure protection consistent with public interests relating to health, safety and funda-



mental rights. To ensure trustworthy and ethical AI, it is based on seven principles: 1) human initiative and oversight; 2) technical soundness and safety; 3) data privacy and governance; 4) transparency; 5) diversity, non-discrimination and equity; 6) social and environmental wellbeing; 7) and accountability (European Parliament, 2024).

In exploring the ethical foundations of artificial intelligence in this section, the challenges that accompany the development of AI were also presented, highlighting the constant dialogue about the impacts of technology on society. Artificial intelligence presents itself as a global and powerful tool, with promises of innovative solutions to real problems, so the need for technology to coexist with ethics, prioritizing social welfare, is evident.

The main challenge is how artificial intelligence will comply with ethical principles beyond the technical aspect. It is understood that this requires a deep commitment to integrity and responsibility in the development and implementation of these systems. It is essential to guarantee transparency and incorruptibility, ensuring that AI operates ethically, even in the face of complex decisions. Only in this way will it be possible to ensure that AI can contribute to society without reproducing or amplifying prejudices and inappropriate behavior.

## 4 FINAL CONSIDERATIONS

Artificial Intelligence offers significant prospects for solving complex challenges and solutions to improve quality of life. However, the advancement of technology without observing well-defined ethical principles could lead to a series of negative consequences for society, such as the amplification of existing prejudices and discrimination and the making of unfair decisions based on gender, race or social class biases. The result would be growing social inequality and an increase in marginalized groups.

The lack of ethical regulation favors the use of AI for malicious purposes such as mass hyper-surveillance, misinformation and privacy violations. In short, fundamental rights would be jeopardized, affecting democracy, social welfare and global stability.

The importance of aligning the development and application of artificial intelligence with universal ethical principles such as human dignity, justice, freedom and equality is therefore reiterated. Fairness, reliability, social impact, accountability, transparency, privacy and security are essential pillars for ensuring that AI systems are developed and operated in an ethical and responsible manner. These principles not only provide a framework for addressing the ethical challenges associated with AI, but also guide the development of policies, regulations and practices that promote the sustainable development of the technology.

It can therefore be concluded that the ethical discussion around artificial intelligence is relevant, as it is a human rights issue. Only through a joint commitment to ethics and responsibility in the development and implementation of AI will it be possible to exploit the full potential of the technology in a positive and beneficial way for its users, and it is up to civil society, the private sector, governments and the scientific community to take action to ensure that its development and use are guided by the highest ethical and moral standards.

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